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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,109	09/02/2003	Ebrahim Andideh	42P10698D	4785

8791 7590 04/20/2004

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EXAMINER

HO, TU TU V

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,109	ANDIDEH ET AL.	
	Examiner	Art Unit	
	Tu-Tu Ho	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/02/2003</u> <u>8-12-16/03</u> | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Oath/Declaration

1. The oath/declaration filed on 09/02/2003 is acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 17 and 19-20 are rejected under 35 U.S.C. 102(e)(2) as being anticipated by Xia et al. U.S. Patent 6,258,735 (the '735 patent, cited by Applicant).

The '735 patent discloses in Figure 3, the *Process Flow Chart*, and respective portions of the specification a carbon doped oxide (CDO) film to be formed on a substrate as claimed.

Referring to claim 17, the '735 patent discloses a CDO film to be formed on a substrate from a CDO precursor in the presence of oxygen (column 3, lines 47-50).

Referring to claim 19, the '735 patent further discloses that the CDO film has a dielectric constant of less than about 3.0 (column 1, lines 40-45).

Referring to claim 20, although the '735 patent does not explicitly disclose that the CDO film is formed at a rate exceeding about 5,620 angstroms per minute on said substrate, the reference discloses and claims in claims 2 and 4 other parameters (oxygen flow rate and the CDO precursor flow rate) that constitute the CDO film formation rate as claimed.

3. Claims 17-20 are rejected under 35 U.S.C. 102(e)(2) as being anticipated by Grill et al. U.S. Patent 6,441,491 (the '491 patent, cited by Applicant).

The '491 patent discloses in Figure 6 and respective portions of the specification a carbon doped oxide (CDO) film to be formed on a substrate as claimed.

Referring to claim 17, the '491 patent discloses a CDO film 38 to be formed on a substrate from a CDO precursor (column 3, lines 25-30) in the presence of oxygen (column 3, lines 37-40).

Referring to claim 18, the '491 patent further discloses that the CDO acts as an inter-layer dielectric between conductive lines 40 deposited on said substrate following etching of said carbon doped oxide film 38. Note that substrate is interpreted broadly as an underlying layer.

Referring to claim 19, the '491 patent further discloses that the CDO film has a dielectric constant of less than about 3.0 (column 2, lines 25-34).

Referring to claim 20, although the '491 patent does not explicitly disclose that the CDO film is formed at a rate exceeding about 5,620 angstroms per minute on said substrate, the reference discloses other parameters (oxygen flow rate and the CDO precursor flow rate, paragraph bridging columns 3 and 4) that constitute the CDO film formation rate as claimed.

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Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,531,398 to Gaillard et al. discloses a CDO filmed **as claimed in claims 17-20.**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu-Tu Ho whose telephone number is (571) 272-1778. The examiner can normally be reached on 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID NELMS can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.


Tu-Tu Ho
April 13, 2004


David Nelms
Supervisory Patent Examiner
Technology Center 2800